5. Discussion

This study has used survey data from a sample of non-TANF food stamp leaver families linked with administrative data on earnings and food stamp receipt to examine characteristics of the families that are associated with three domains of well-being outcomes: food hardships, other adverse events, and subjective assessments of life changes. Each of the well-being domains is measured by several questions in the survey. The study follows the approach of many other investigations and examines summary measures of the well-being outcomes, including a food security scale, an indicator for experiencing any hardships, and counts of different types of hardships.

However, the study also goes beyond other research in this area by developing and estimating MIMIC models of well-being outcomes. Each MIMIC specification combines a measurement model relating the categorical responses to different questions to an underlying indicator of well-being with a behavioral model that describes how explanatory variables like a family's income, earnings history and demographic characteristics influence that same indicator. The empirical analyses using the standard and MIMIC approaches produce a number of interesting substantive and methodological findings; before discussing these, however, it is useful to review some of the limitations and qualifications of the analysis.

Limitations and qualifications. Data issues. An important limitation of our study arises from the survey and data that we use. The sample that forms the basis for our empirical analysis is selective in several crucial respects. First, the sample was purposefully limited to families with children and further limited to food stamp leavers who had not participated in TANF while receiving food stamps. Second, the outcomes at the center of the study were only measured among families who were not receiving food stamps one year after leaving the program. Third, even though response rates were excellent for this type of survey, a non-trivial fraction of households (30 percent) either could not be contacted or refused to participate. Fourth, the surveys were only conducted with families with working telephones (while this may seem like a minor issue, recall that one of the hardships that the survey records is whether a household lost phone service). Lastly, the survey was conducted in a single state with a unique set of economic, demographic and programmatic circumstances. The constellation of selection issues means that caution should be used in generalizing the findings to other populations, including the food stamp caseload as a whole.

Within the survey itself there are also several questions regarding the reliability and measurement of key variables. For instance, we were able to compare families' self-reports of incomes with their earnings records from the UI system. Just over half the families who reported receiving no income at all actually had UI earnings in the same quarter as the survey. In fact, the average amount of UI earnings for this group was actually *higher* than UI earnings for households who reported small but positive amounts of income. UI earnings did not increase consistently with reported income. Another troubling feature in the survey is the apparent lack

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of any item non-response for the food hardship, adverse event and subjective assessment questions, which leads us to believe that "don't knows" and refusals may have been coded as negative responses. The difficulty, of course, with mismeasurement is that it generally leads to weaker estimates of associations between variables and thus reduces the ability to draw inferences from the analyses.

Causality. Another limitation of our study is that the explanatory variables include several behaviorally-determined measures, such as incomes, earnings, food stamp participation, and family structure. The estimated relationships between these measures and the well-being outcome measures could reflect direct causal impacts of the explanatory variables. However, they could also reflect reverse causal relationships, such as less chaotic home situations allowing people to work and earn more. The estimated relationships could also be confounded by influences from other unmeasured factors, including unmeasured needs and subjective standards. The relatively large number of behaviorally-determined variables, problems in measurement for some of the variables, and the modest size of the sample precluded us from addressing this issue further. As a consequence, the relationships should be interpreted as evidence of associations and not necessarily as evidence of causal links.

Substantive findings. Family income. The study's most consistent finding is that families are less likely to experience and perceive hardships as their monthly incomes rise. This association appears in our descriptive analyses and in every multivariate specification for every well-being outcome. The result has been reported in other studies, and the reason for it is intuitive—families with more financial resources are better able to meet their food, housing, health care and other material needs than families with fewer resources.

While the sign of the association is not surprising, the small magnitude of some of the estimated relationships may be. The magnitudes are most easily judged in the OLS count models in which relatively large changes in income appear to help families avoid, at most, one hardship on average. One explanation, which we have already discussed, is that there is some misreporting in the income variable; the resulting measurement error would bias the estimates of the associations toward zero—that is, toward findings of no relationships or weak relationships. While measurement error is certainly present, we cannot dismiss the finding altogether. Several other researchers, including Gundersen and Ribar (2005), Nord and Brent (2002) and Ribar (2005), who have examined other data and not only looked at the direction but also the magnitudes of relationships between financial resources and well-being have reported similar results.

Food stamp participation. Leaver families who returned to the Food Stamp Program (but who left again before the survey was conducted) suffered more food hardships and other adverse events than families who remained independent of the program. It is doubtful that program participation itself caused these negative outcomes. More likely, unmeasured increases in families' needs, which would increase hardships but also increase program participation, account for the estimated relationship.

Earnings history. Another seemingly incongruous finding is that families who had higher earnings during the year before they initially left the Food Stamp Program reported more adverse

events than families with lower earnings. This result is puzzling because higher earnings, even a year earlier and holding current income constant, should have helped the families to either pay bills, pay debts or put aside money—any of which would have reduced the probability of future hardships. The most plausible explanation for the result is that the families adjusted either their notions of what constitutes an appropriate standard of living (equivalently, adjusted their notions of what constitutes an appropriate threshold for reporting a problem) or took on more financial obligations which left them vulnerable to subsequent income changes. Kapteyn et al. (1988) and others have reported that changes in resources can lead people to change their reference levels of well-being.

Household structure. The study generates relatively little evidence that household structure—the living arrangements of the parents, the number and age distribution of the children, and the number of other adults—is strongly or consistently associated with well-being. No statistically significant associations were found for marriage. The number of small children was found to be related with assessing life changes more negatively, but the number of adults was also found to have the same association. These characteristics were not significantly associated with any other outcome.

Methodological findings. An innovation of our study is its use of MIMIC models to examine the characteristics of families that are associated with food hardships and other well-being outcomes. The study demonstrates that this type of model can be successfully employed in this context. We were also able to use the model to test a key assumption of the food security scale—namely, whether the items in the scale can be adequately represented by a single index. Formal specification tests failed to reject the single-index restriction for food hardships. Follow-up work should extend this analysis from the 6-item food security scale to the 18-item scale used in the Food Security Supplement of the Current Population Survey and other surveys.

Another methodological finding is that many estimated relationships between family characteristics and well-being outcomes are robust to whether simple summary measures or more elaborate MIMIC models are used. Results varied across well-being domains. However, there were few meaningful differences between the results from different statistical specifications within the domains. Therefore, even though the MIMIC approach has several advantages associated with it, the use of this approach does not lead to drastically different research findings. The results provide additional evidence that the single-index restriction is appropriate.

Policy implications. The findings of this study have several implications for food assistance policymakers. The first is that the well-being indicators considered here—self-reports of food hardships, material deprivations, and perceptions regarding life changes—may not be optimal for evaluating assistance programs. The self-reported measures undoubtedly incorporate objective components, but some of the observed relationships, such as the modest relationship between current income and hardships and the positive relationship between food stamp participation and food problems, may be partly explained in terms of subjective responses and relative standards (see, e.g., Easterlin 1974 and Hamermesh 2004). To the extent that subjectivity is present, it would be difficult to determine whether the relationships that we observe reflect associations with the objective components of the measures, the subjective components, or both. The results from the earnings history measure further suggest that changes in resources in one period may alter people's perceptions or standards of well-being in other

periods. If the subjective components of these measures are continually evolving, policymakers who use the measures may be chasing a moving set of targets. Until we know more about the extent of subjectivity in self-reported hardship measures, policymakers should be cautious in using them to evaluate programs and should consider supplementing them with more objective criteria, such as direct measures of expenditures and consumption.

Putting the quality and utility of the measures aside, there are implications of the finding that income is a correlate of well-being. Supports for families leaving the Food Stamp Program that help them to earn money and maintain employment are likely to produce positive well-being outcomes. Conversely, policies and sanctions that remove families from the food stamp rolls without providing adequate income supports are likely to increase food hardships and material deprivations. Although many of the food stamp leavers in our sample, and elsewhere, were successful in securing reasonable incomes, there was still a sizeable minority of families who were jobless and/or had low-incomes and thus faced an especially high risk of other hardships. Policies to increase incomes might have reduced these risks.